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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/561,389

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EXAMINER

VERDIER, CHRISTOPHER M

ART UNIT

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3745

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/561,389	Applicant(s) SANAGI ET AL.	
	Examiner Christopher Verdier	Art Unit 3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 February 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6,7,10,11,13,14,17,20 and 23-31 is/are pending in the application.
- 4a) Of the above claim(s) 13 and 29-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-7, 10-11, 14, 17, 20, 23-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>2-4-10</u> . | 6) <input type="checkbox"/> Other: _____ |

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 11, 2010 has been entered.

Applicant's arguments that the amendments to the claims overcome the rejection of claims 1-2, 15-16 and 18-19 under 35 U.S.C. 102(b) as being anticipated by Kurusu et al. (U.S. Patent 5,693,992, the rejection of claims 1-5, 7-9, 11-12, 14, and 21-22 under 35 U.S.C. 103(a) as being unpatentable over Gerken et al. (U.S. Patent 6,508,627) in view of Atarashi et al. (U.S. Patent 4,971,521), the rejection of claims 6 and 10 under 35 U.S.C. 103(a) as being unpatentable over Gerken et al. (U.S. Patent 6,508,627) in view of Atarashi et al. (U.S. Patent 4,971,521), and the rejection of claims 17 and 20 under 35 U.S.C. 103(a) as being unpatentable over Kurusu et al. have been carefully considered and are persuasive. Applicant is thanked for the detailed discussions of how the amended claims define over these references.

The amended claims are subject to the grounds of rejection set forth later below.

Specification

The disclosure is objected to because of the following informalities: Appropriate correction is required.

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On page 1, line 20, “(e.g., see Patent ... Patent Document 2)” should be deleted.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2, 4, 17, 20, 24-26, and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 2, the tenth to last line, “thereon” is unclear if this refers to the first surface portion or the second surface portion. In claim 2, the sixth to last line, “a centrifugal force” is a double recitation. In claim 4, the eleventh to last line, “thereon” is unclear if this refers to the first surface portion or the second surface portion. In claim 2, the seventh to last line, “a centrifugal force” is a double recitation.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

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evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-4, 7, 11, 14, and 23-28 (as far as claims 2, 4, 24-26, and 28 are definite and understood) are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Publication 64-41,697 in view of either (Glucksman 3,536,416 or Kim 6,848,887). Japanese Publication 64-41,697 discloses an impeller of a centrifugal fan substantially as claimed, comprising: a main plate 5 configured to rotate around an unnumbered rotating shaft, a plurality of hollow blades 15 annularly disposed around the rotating shaft, each of the hollow blades including a first surface portion 16 fixed to the main plate, a second surface portion 17 attached to the first surface portion to form a hollow space therebetween, a side plate 13 fixed to the first surface portions, the hollow blades being disposed between the main plate and the side plate, the main plate, the hollow blades and the side plate being configured to take in a gas from a rotating shaft direction and blow out the gas in a direction intersecting the rotating shaft, each of the second surface portions forming at least part of a negative-pressure surface, and each of the first surface portions forming at least part of a positive pressure surface, the hollow blades including a blade shape retaining mechanism to prevent the second surface portions from being deformed toward outer peripheral sides of the second surface portions by a centrifugal force, and each of the first surface portions having an edge portion (near 18) extending from a side plate end thereof toward a respective one of the second surface portions, and each edge portion having an end surface (near

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21) that abuts the respective one of the second surface portions at a side plate end thereof to form part of the blade shape retaining mechanism. The second surface portion is configured to remain attached to the first surface portion while a centrifugal force resulting from the rotation of the main plate acts thereon. A side plate guide mechanism 23 positions the hollow blades in the side plate. A main plate guide mechanism 23 positions the hollow blades in the main plate. A drive mechanism 6 is configured to rotate the main plate. The second surface portion is attached to the first surface portion by inserting a portion of the second surface portion into the first surface portion.

However, Japanese Publication 64-41,697 does not disclose the main plate being constructed of resin material, does not disclose the first surface portion being constructed of resin material, does not disclose the second surface portion being constructed of resin material, and does not disclose the side plate being constructed of resin material (claims 1-4).

Glucksman shows an impeller having a main plate 3 constructed of resin material, blades 1 each having a blade first surface portion constructed of resin material and a second surface portion constructed of resin material, and a side plate 4 constructed of resin material, for the purpose of reducing the weight of the impeller. Kim (figures 5-10) shows an impeller 100 having a main plate 112 constructed of resin material, blades 120 each having a blade first surface portion constructed of resin material and a second surface portion constructed of resin material, and a side plate 130/230 constructed of resin material, for the purpose of reducing the weight of the impeller.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to form the impeller of Japanese Publication 64-41,697 such that the main plate is constructed of resin material, the first surface portion is constructed of resin material, the second surface portion is constructed of resin material, and the side plate is constructed of resin material, as taught by either Glucksman or Kim, for the purpose of reducing the weight of the impeller.

The recitations of the side plate integrally molded with or fixed to the first surface portions by laser welding, the side plate being molded separately from the first surface portions, each edge portion being laser welded to the side plate, the first surface portion fixed to the main plate by laser welding, and the first portion being molded separately from the main plate, are all product-by-process claims. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product-by-process claim does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

Claims 6, 10, 17, and 20 (as far as claims 17 and 20 are definite and understood) are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Publication 64-41,697 and either (Glucksman 3,536,416 or Kim 6,848,887) as applied to claims 1, 2, 3, and 4, respectively

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above. The modified impeller of Japanese Publication 64-41,697 shows all of the claimed subject matter except for the side plate including a material with a higher light transmittance than a material of the first surface portions (claims 6 and 17), and except for the main plate including a material with a higher light transmittance than a material of the first surface portions (claims 10 and 20).

It is common practice in the art to change the light transmittance (color) of separate parts in order to better differentiate between parts during assembly. Therefore, it would have been further obvious at the time the invention was made to a person ordinary skill in the art to form the modified impeller of Japanese Publication 64-41,697 such that the side plate includes a material with a higher light transmittance than a material of the first surface portions, and such that the main plate including a material with a higher light transmittance than a material of the first surface portions, as an engineering expedient.

Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kawasaki, Sato, and Couch are cited to show impellers with side plates forming a positive pressure surface and a blade shape retaining mechanism.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Verdier whose telephone number is (571) 272-4824. The examiner can normally be reached on Monday-Friday from 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward K. Look can be reached on (571) 272-4820. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Christopher Verdier/
Primary Examiner, Art Unit 3745

Christopher Verdier
Primary Examiner
Art Unit 3745